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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/852,611	05/09/2001	Jerold Shan	HP-10007924	4891

7590 09/22/2004

HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

REAGAN, JAMES A

ART UNIT	PAPER NUMBER
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3621

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/852,611

Applicant(s)

SHAN ET AL. 4

Examiner

James A. Reagan

Art Unit

3621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. This action is in response to the application filed on 09 May 2001.
2. Claims 1-18 have been examined.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cortes et al. (US 6,480,844 B1) in view of Applicant's own admissions.

Examiner's Note: The Examiner has pointed out particular references contained in the prior art of record within the body of this action for the convenience of the Applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply. Applicant, in preparing the response, should consider fully the entire reference as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

Claims 1 and 10:

Cortes discloses the following limitations:

- *storing customer profile information corresponding to a plurality of on-line shoppers;*
- *storing customer log information corresponding to the plurality of on-line shoppers;*
- *storing product information corresponding to a plurality of products offered for sale by the on-line vendor;*
- *storing promotion attributes corresponding to the plurality of products;*
- *constructing a model which simulates shopping behavior as a function of the customer profile information, customer log information, product information, and promotion attributes;*
- *generating a percentage chance that the customer purchases a particular item based on the model;*
- *displaying the percentage chance;*

Cortes does not specifically disclose that the database files are specifically for online shoppers, that their habits are logged, or that the database contains product information and incentives. Applicant, however, in the background of the specification discloses these limitations as already known in the art. It would have been obvious, therefore, to one of ordinary skill in the art at the time of the invention to apply the data mining principles and regression analysis techniques of Cortes to the Applicant's data concerning online shopping because the results would provide a model for predicting online shopping behavior, thereby maximizing profits.

Claims 2 and 11:

With regard to the limitations of *identifying relevant variables and selecting a plurality of relevant variables in constructing the model*, these steps are inherent to constructing a logical and reasonable regression model.

Claims 3 and 12:

With regard to the limitation of *estimating a parameter for use in constructing the model*, see at least column 2, lines 66-67.

Claims 4 and 13:

With regard to the limitation of *the model comprises a logistic regression model*, see at least column 7, line 47.

Claims 5 and 14:

With regard to the limitation of: the logistic regression model comprises:

$$P (\text{Buy} = 1 \mid \text{Select} = 1) = \frac{\exp (\beta' X)}{1 + \exp (\beta' X)}$$

See at least column 7, line 67.

Claims 6 and 15:

The combination of Cortes/Applicant discloses the use of regression analysis techniques as applied to online consumer purchasing as shown in the rejections above. Cortes/Applicant do not specifically disclose that *the model is partially based on traditional logistical regression theory and partially on the maximum utility theory*. However, the Examiner takes **Official Notice** that these variations of logical regression analysis are old and well-known in the statistical analysis arts as well as the survey and marketing arts. It would have been obvious, therefore, to one of

ordinary skill in the art at the time of the invention to combine the data mining principles and regression analysis techniques of Cortes with the established use of traditional logistical regression analysis and maximum expected utility models theory analysis because they provide insight to customer spending habits that may be extrapolated and used to maximize profits and product throughput.

Claims 7, 8, 16, and 17:

The combination of Cortes/Applicant discloses the use of regression analysis techniques as applied to online consumer purchasing as shown in the rejections above. Cortes/Applicant do not specifically disclose:

- *customer profile information includes age, sex, religion, income, ethnicity, marital status, geographical location, number of children, interests, hobbies, spending habits, and zip code.*
- *the customer log information includes contains data regarding when the customer accessed the web site, how long the customer visited the web site, which items were of interest, how the customer heard about the web site, whether the customer saw the promotion, whether the customer was motivated to taking action as a result of the promotion, whether the customer inspected an item, whether the customer put the item back, whether the customer bought an item, and the quantity of items purchased.*

However, the Examiner takes **Official Notice** that these attributes and parameters are old and well-known in the demographic utilization arts as well as the survey and marketing arts. It would have been obvious, therefore, to one of ordinary skill in the art at the time of the invention to combine the data mining principles and regression analysis techniques of Cortes with the established use of demographics and online activities of consumers because they provide insight

to customer spending habits that may be extrapolated and used to maximize profits and product throughput.

Claims 9 and 18:

Cortes discloses the use of regression analysis techniques as applied to online consumer purchasing as shown in the rejections above. Cortes does not specifically disclose that *the promotion attributes include one of sales, upgrades, extended warranties, buy-one-get-one free, financing packages, free options, rebates, coupons, donations to charities, and free gifts.* However, Applicant, in the background of the specification discloses the features as already prevalent in the art. It would have been obvious, therefore, to one of ordinary skill in the art at the time of the invention to combine the data mining principles and regression analysis techniques of Cortes with the Applicant's incentives for online shoppers because the results would provide increased purchasing thereby maximizing profits.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to **James A. Reagan** whose telephone number is **(703) 306-9131**. The examiner can normally be reached on Monday-Friday, 9:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **James Trammell** can be reached at (703) 305-9768.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Receptionist** whose telephone number is **(703) 305-3900**. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://portal.uspto.gov/external/portal/pair> . Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 305-7687 [Official communications; including

After Final communications labeled "Box AF"]

(703) 308-1396 [Informal/Draft communications, labeled "PROPOSED"

or "DRAFT"]

Hand delivered responses should be brought to Crystal Park 5, 2451 Crystal Drive, Arlington, VA, 7th floor, receptionist.

JAR

17 September 2004

